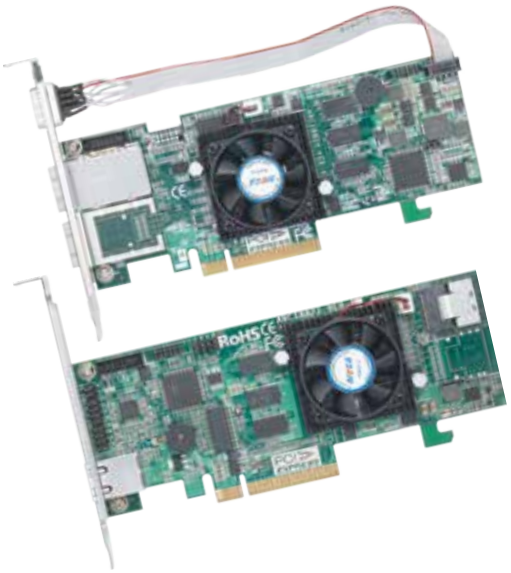
areca® At the Heart of Storage

ARC-1215-4i/1225-8i

(4/8-Port PCIe 3.0 Internal 6Gbps SAS RAID Controllers)

ARC-1215-4x/1225-8x

(4/8-Port PCIe 3.0 External 6Gbps SAS RAID Controllers)



SAS 2.0 is designed for much higher speed data transfer than previous available and backward compatibility with SAS 1.0. The 6Gb/s SAS interface supports both 6Gb/s and 3Gb/s SAS/SATA disk drives for data-intensive applications and 6Gb/s or 3Gb/s SATA drives for low-cost bulk storage of reference data. The ARC-12x5 family only support directly attach to 4/8 SAS/SATA drives without supporting the expand function.

Highlights

- Configurable stripe size up to 1024KB
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Online capacity expansion, RAID level/stripe size migration
- Online volume set growth
- Redundant flash image for adapter availability
- Serial bus and SGPIO enclosure management
- Support EFI BIOS for Mac Pro
- SSD automatic monitor clone (AMC) support
- Controller level hardware encryption function support
- Support for native 4K and 512 byte sector SAS and SATA devices
- Support intelligent power management to save energy and extend service life.
- Broad operating support including Windows, Linux (open source), FreeBSD (open source), Soaris (open source), Mac and VMware

Unparalleled Performance

The 6Gb/s SAS RAID controllers raise the standard to higher performance levels with several enhancements including new high performance dual core ROC Processor, a DDR3-1333 memory architecture and high performance PCIe 3.0 x8 lane host interface bus interconnection. The low profile controllers by default support on-board 1G of ECC DDR3-1333 SDRAM memory. The optional battery backup module provides power to the cache if it contains data not yet written to the drives when power is lost. The test result is against overall performance compared to other 6Gb/s SAS RAID controllers. The powerful new ROC processors integrated 8 6Gb/s SAS ports on chip delivers high performance for servers and workstations.

Unsurpassed Data Availability

As storage capacities continue to rapidly increase, users need greater level of disk drive fault tolerance, which can be implemented without doubling the investment in disk drives. The RAID 6 can offer fault tolerance greater that RAID 1 or RAID 5 but only consumes the capacity of 2 disk drives for distributed parity data. The 6Gb/s SAS RAID controllers with extreme performance RAID 6 engine installed provide the highest RAID 6 feature to meet this requirement. The controller can concurrently compute two parity blocks and get very similar RAID 5 performance.

The 6Gb/s SAS RAID controllers can also provide RAID levels 0, 1, 1E, 3, 5, 6, 10, 30, 50, 60, Single Disk or JBOD for maximum configuration flexibility. Its high data availability and protection derives from the following capabilities: Online RAID Capacity Expansion, Array Roaming, Online RAID Level / Stripe Size Migration, Global Online Spare, Automatic Drive Failure Detection, Automatic Failed Drive Rebuilding, Disk Hot-Swap, Online Background Rebuilding, Instant Availability/Background Initialization, Auto Reassign Sector, Redundant Flash Image and Battery Backup Module. Greater than Two TB Support allows for very large volume set application in 64-bit environment such as data-mining and managing large databases.

Maximum Interoperability

The 6Gb/s SAS RAID controller support broad operating system including Windows 8/Server 2012(R2)/7/2008/Vista/XP/2003, Linux (Open Source), FreeBSD (Open Source), Solaris (Open Source), Mac, VMware and more, along with key system monitoring features such as enclosure management (Serial Bus & SGPIO) and SNMP function. Our products and technology are based on extensive testing and validation process; leverage Areca SAS or SATA RAID controller field-proven compatibility with operating systems, motherboards, applications and device drivers.

Easy RAID Management

The controllers contain an embedded McBIOS RAID manager that can access via hot key at M/B BIOS boot-up screen. This pre-boot McBIOS RAID manager can use to simplify the setup and management of RAID controller. The controller firmware also contains a browser-based McRAID storage manager which can be accessed through the Ethernet port or ArcHttp proxy server in Windows, Linux, FreeBSD and more environments. The McRAID storage manager allows local and remote to create and modify RAID set, volume set, and monitor RAID status from standard web browser. The Single Admin Portal (SAP) monitor utility can support one application to scan multiple RAID units in the network.

Adapter Architecture

- Dual Core RAID-on-Chip (ROC) 800 MHz processor
- PCIe 3.0 x8 lane host interface
- 1GB on-board DDR3-1333 SDRAM with ECC
- Support up to 4/8 internal or 4/8 external 6Gb/s SAS ports
- Write-through or write-back cache support
- ARC-1215-4i/4x supports up to 4 x 6Gb/s SAS/SATA HDDs
- ARC-1225-8i/8x supports up to 8 x 6Gb/s SAS/SATA HDDs
- Multi-adapter support for large storage requirements
- BIOS boot support for greater fault tolerance
- BIOS PnP (plug and play) and BBS (BIOS boot specification) support
- Support EFI BIOS for Mac Pro
- NVRAM for RAID event & transaction log
- Redundant flash image for adapter availability
- Battery Backup Module (BBM) ready (optional)
- RoHS compliant

RAID Features

- RAID level 0, 1, 10(1E), 3, 5, 6, 30, 50, 60, Single Disk or JBOD
- Multiple RAID 0 and RAID 10(1E) support (RAID 00 and RAID100)
- Multiple RAID selection
- Configurable stripe size up to 1024KB
- Support HDD firmware update
- Online array roaming
- Online RAID level/stripe size migration
- Online capacity expansion and RAID level migration simultaneously
- Online volume set growth
- Instant availability and background initialization
- Support global and dedicated hot spare
- Automatic drive insertion/removal detection and rebuilding
- Support for native 4K and 512 byte sector SAS and SATA devices
- Support intelligent power management to save energy and extend service life
- Multiple pairs SSD/HDD disk clone function
- SSD automatic monitor clone (AMC) support
- Controller level hardware encryption function support
- Support firmware level Hdd Xfer speed test

Monitors/Notification

- System status indication through global HDD activity/fault connector, individual activity/fault connector, LCD/I2C connector and alarm buzzer
- SMTP support for email notification
- SNMP support for remote manager
- Enclosure management (Serial Bus and SGPIO) ready

RAID Management

- Field-upgradeable firmware in flash ROM

In-Band Manager

- Hot key "boot-up" McBIOS RAID manager via M/B BIOS
- Web browser-based McRAID storage manager via ArcHttp proxy server for all operating systems
- Support Command Line Interface (CLI)
- API library for customer to write monitor utility
- Single Admin Portal (SAP) monitor utility

Out-of-Band Manager

- Firmware-embedded web browser-based McRAID storage manager, SMTP manager, SNMP agent and Telnet function via Ethernet port
- API library for customer to write monitor utility
- Support push button and LCD display panel (optional)

Operating System

- Windows 8/server 2012/7/2008/Vista/XP/2003
- Linux
- FreeBSD
- VMware (only driver package available w/o management)
- Solaris 10/11 x86/x86_64
- Mac OS X 10.4 or higher

For more information & latest supported OS listing visit **www.areca.com.tw**

Model Name	ARC-1215-4i	ARC-1215-8i	ARC-1215-4x	ARC-1215-8x
I/O Processor	Dual Core RAID-on-Chip (ROC) 800 MHz Processor			
Host Bus Type	PCIe 3.0 x 8 Lanes			
Drive Connector	1 x SFF-8087	2 x SFF-8087	1 x SFF- 8088	2 x SFF-8088
Drive Support	4 x SAS/SATA	8 x SAS/SATA	4 x SAS/SATA	8 x SAS/SATA
RAID Level	0, 1, 10, 3, 5, 6, Single Disk or JBOD	0, 1, 10, 3, 5, 6, 30, 50, 60, Single Disk or JBOD	0, 1, 10, 3, 5, 6, Single Disk or JBOD	0, 1, 10, 3, 5, 6, 30, 50, 60, Single Disk or JBOD
On-Board Cache	1GB on-board DDR3-1333 SDRAM with ECC			
Management Port	In-Band: PCIe / Out-of-Band: BIOS, LCD (Optional) and LAN Port		In-Band: PCIe / Out-of-Band: BIOS and LCD (Optional)	
Enclosure Ready	Individual Activity/Faulty Header, Serial Bus and SGPIO		External Serial Bus	
Form Factor (H x L)	64.4 (H) x 169.5 (L) mm			
Products View				

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